AMENDMENTS TO THE CLAIMS

1.   (Currently amended) An apparatus for transmitting data on a fiber channel, the apparatus comprising:

an input that receives a digital signal to be transmitted;

a plurality of programmable modulators each configured to accept a portion of the digital signal to be transmitted, and to modulate the portion of the digital signal accepted;

a plurality of mixers, each mixer coupled to the output of one of the programmable modulators to accept a modulated signal and mix it with a mixer frequency;

a plurality of bandpass filters, that filter the output of the mixers; and

a summation unit that combines the outputs of the ~~mixers~~ bandpass filters into a single signal.

2.   (Previously presented) An apparatus as in claim 1 wherein the input that receives a digital signal to be transmitted comprises a Gigabit Media Independent Interface (GMII).

3.   (Previously presented) An apparatus as in claim 1 wherein the input that receives a digital signal to be transmitted further comprises a control input that controls the number of bits of the digital signal to be transmitted which are provided to each modulator.

4.   (Previously presented) An apparatus as in claim 1 wherein each programmable modulator further comprises a control input that controls the type of modulation that is applied to the portion of the digital signal that is accepted by each modulation.

5.   (Previously presented) An apparatus as in claim 4 wherein the type of modulation selected consists essentially of binary phase shift keying (BPSK), quadrature phase shift keying (QPSK), and quadrature amplitude modulation (QAM).

6.   (Previously presented) An apparatus as in claim 1 wherein the mixer frequency that is provided to the mixer is a programmable frequency.

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7.   (Previously presented)   An apparatus as in claim 1 wherein each bandpass filter has a programmable bandpass.

8.   (Previously presented)   An apparatus as in claim 1 wherein the apparatus is integrated within a single integrated circuit.

9.   (Previously presented)   An apparatus as in claim 8 wherein the single integrated circuit is a complementary Metal Oxide Semiconductor (CMOS) integrated circuit.

Claims 10-39 (Cancelled)

40.   (New) A method of transmitting data on a fiber channel, the method comprising:
    receiving a digital signal to be transmitted;
    modulating a plurality of portions of the digital signal to be transmitted to produce a plurality of modulated signals;
    mixing each of the modulated signals with a mixer frequency to produce a plurality of mixed signals;
    filtering each of the mixed signals with a bandpass filter to produce a plurality of filtered signals; and
    combining the filtered signals into a single signal.

41.   (New) The method of claim 40 wherein the digital signal to be transmitted is received by a Gigabit Media Independent Interface (GMII).

42.   (New) The method of claim 40 further comprising controlling the number of bits that comprise each portion of the digital signal.

43. (New) The method of claim 40 wherein modulating the plurality of portions of the digital signal comprises controlling the type of modulation that is applied to each portion of the digital signal.

44. (New) The method of claim 40 wherein modulating the plurality of portions of the digital signal comprises performing binary phase shift keying (BPSK), quadrature phase shift keying (QPSK) and quadrature amplitude modulation (QAM).

45. (New) The method of claim 40 wherein the mixer frequency is programmable.

46. (New) The method of claim 40 wherein each bandpass filter has a programmable bandpass.